

MA 2733

Worksheet 10 – November 15, 2013

Name _____

1. Consider the power series $\sum_{n=0}^{\infty} \frac{n}{2^n} \cdot x^n$:

(a) What are the coefficients of 1 , x , x^2 , and x^3 ?

(b) On what interval does the power series converge?

(c) Find the derivative wrt x of the power series on its interval of convergence.

2. Discuss convergence of $\sum_{n=0}^{\infty} \frac{(-1)^n \sin n}{n^2 + 1}$.

3. Discuss convergence of $\sum_{n=0}^{\infty} \frac{(-2)^n}{2^n + n^2 + 1}$.

4. Discuss convergence of $\sum_{n=0}^{\infty} \frac{10 - n}{3^n + 1}$.